

Contributions and Risks of Artificial Intelligence (AI) in Building Smarter Cities: Insights from a Systematic Review of the Literature

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Abstract

Artificial intelligence (AI) is one of the most disruptive technologies of our time. Interest in the use of AI for urban innovation continues to grow. Particularly, the rise of smart cities—urban locations that are enabled by community, technology, and policy to deliver productivity, innovation, livability, wellbeing, sustainability, accessibility, good governance, and good planning—has increased the demand for AI-enabled innovations. There is, nevertheless, no scholarly work that provides a comprehensive review on the topic. This paper generates insights into how AI can contribute to the development of smarter cities. A systematic review of the literature is selected as the methodologic approach. Results are categorized under the main smart city development dimensions, i.e., economy, society, environment, and governance. The findings of the systematic review containing 93 articles disclose that: (a) AI in the context of smart cities is an emerging field of research and practice. (b) The central focus of the literature is on AI technologies, algorithms, and their current and prospective applications. (c) AI applications in the context of smart cities mainly concentrate on business efficiency, data analytics, education, energy, environmental sustainability, health, land use, security, transport, and urban management areas. (d) There is limited scholarly research investigating the risks of wider AI utilization. (e) Upcoming disruptions of AI in cities and societies have not been adequately examined. Current and potential contributions of AI to the development of smarter cities are outlined in this paper to inform scholars of prospective areas for further research.